

expression of CaMKIIa (without a GFP-tag) together with a similar amount of GFP-CaMKIIb did not affect the cortical localization of GFP-CaMKIIb (data not shown). Using the same co-localization protocols as described above, we also found a marked co-localization between GFP-CaMKIIa, co-expressed with CaMKIIb, and anti PSD-95 antibodies (not shown). In living neurons, GFP-CaMKIIa, co-expressed with CaMKIIb, showed a marked localization juxtaposed to the presynaptic marker FM 4-64 (not shown).--

IN THE CLAIMS:

Please cancel claims 7-10 and 26-45 without prejudice to or disclaimer of the subject matter contained therein.

Please amend the claims as follows:

1. (Amended) A method of detecting a ~~protein-protein~~ ^{using} ~~using~~ ^{the} ~~the~~ ^{method} ~~method~~ ^{of} ~~of~~ ^{detecting} ~~detecting~~ ^{the} ~~the~~ ^{interaction} ~~interaction~~ ^{between} ~~between~~ ^{the} ~~the~~ ^{first} ~~first~~ ^{heterologous} ~~heterologous~~ ^{conjugate} ~~conjugate ^{and} ~~and~~ ^a ~~a~~ ^{second} ~~second~~ ^{heterologous} ~~heterologous~~ ^{conjugate} ~~conjugate~~, comprising:~~

(a) ~~providing~~ ^{using} ~~using~~ ^{the} ~~the~~ ^{method} ~~method~~ ^{of} ~~of~~ ^{detecting} ~~detecting~~ ^{the} ~~the~~ ^{interaction} ~~interaction~~ ^{between} ~~between~~ ^{the} ~~the~~ ^{first} ~~first~~ ^{heterologous} ~~heterologous~~ ^{conjugate} ~~conjugate~~ ^{and} ~~and~~ ^a ~~a~~ ^{second} ~~second~~ ^{heterologous} ~~heterologous~~ ^{conjugate} ~~conjugate~~,

wherein said first heterologous conjugate comprises

- (1) a first ~~protein~~ ^{enzyme} of interest conjugated to
- (2) a detectable group, and

wherein said second heterologous conjugate comprises

- (1) a second protein of interest conjugated to
- (2) a ~~known~~ ^{transient} ^{protein}, wherein said ~~known~~ ^{transient} ^{protein}

specifically binds to an internal structure within said cell; and

(b) detecting the signal from said detectable group, wherein said signal being localized at said internal structure is indicative of specific binding between said first and said second proteins of interest.

3. (Amended) A method according to claim 1, wherein said cell contains and expresses a nucleic acid encoding said first heterologous conjugate.

5. (Amended) A method according to claim 1, wherein said cell contains and expresses a nucleic acid encoding said second heterologous conjugate.

6. (Amended) A method according to claim 1, wherein said first and second proteins of interest are known to specifically bind to one another.

Please add the following new claims:

--47. (NEW) The method according to claim 1, wherein said detectable group is (derived) from Green Fluorescent Protein (GFP).-

--48. (NEW) The method according to claim 1, wherein said

localization occurs when said first protein of interest binds directly to said second protein of interest.--

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CONC. --49. (NEW) The method according to claim 19, wherein said known protein that specifically binds to said internal structure is a protein kinase C isoform (or a fragment thereof) that specifically binds to an internal structure and wherein the step of inducing translocation comprises adding a phorbol ester.--

Attached hereto is a marked-up version of the changes made to the application by this Amendment.